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ABSTRACT

Today, the science of man's subjective experience is in its infancy. But if it gains momentum, its consequences may be even more far-reaching than those which emerged from the Copernican, Darwinian, and Freudian revolutions. The following propositions have accumulated an impressive amount of substantiating evidence: 1) The potentialities of the individual are far greater than we ordinarily imagine them to be and far greater than current models of man would lead us to think possible; 2) A far greater portion of significant human experience than we ordinarily feel or assume to be so is comprised of unconscious processes; 3) Included in these processes are self-expectations and images of ourselves, others, and the future, which tend to be self-fulfilling. The new science will take these features into account. By doing so, it may ennoble the image of the individual's possibilities, of the educational and socializing processes, and of the future. Since the image man has of the future is crucial in determining what he does with it, such a science will be more useful than the older, mechanistic one in helping man survive. (JK)

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# The New Copernican Revolution

*There are many signs that men may be undertaking a systematic exploration of the vast, imperfectly known universe of his own being, a step as epochal as his construction of a science of the galaxies.*

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by WILLIS W. HARMAN

AS FUTURE HISTORIANS look back on our times what will they conclude to have been the most significant event of the present decade in terms of its impact on the future? The riots in the cities? The Vietnam War? The Great Society programs? The hippie movement? Student protest? Technological and scientific advances? Man to the moon?

None of these, I would make bold to guess. Nor any of the events or trend discontinuities which the in-vogue forecasters are picking out with their current methodologies. I will suggest below that it will be something quite different from any of these, an event perhaps well symbolized by an obscure scientific conference to be held in Council Grove, Kansas, in April 1969.

What follows is a report on research in process. It does not pretend to present demonstrated conclusions. Rather, it raises questions and advances possible interpretations which are so momentous in their possible implications for the future that the fullest possible amount of responsible dialogue is called for.

LET US SUPPOSE for a moment that we are back in the year 1600, concerned with forecasting probable future trends. In retrospect it is clear that one of the most significant events in progress was what came later to be called the Copernican revolution. Would our futurist researches have picked this up? They might have, if we were looking at the right things. What was the essence of this remarkable transformation that started with the brash suggestions of Nicholas Copernicus and Giordano Bruno and led to consequences as diverse as a tremendous acceleration in physical science and a decline in the political power of the Church? One useful interpretation is that a group of questions relating to the position of the Earth in the universe, and the nature and significance of the heavenly bodies passed out of the realm of the theological and philosophical and into the realm of empirical inquiry. No longer were these questions to be settled by referring to this or that ecclesiastical or scholarly authority; rather they were to be subjected to illumination by systematic observation and experiments. The consequences of such a shift are manifold. New research activities are started; familiar phenomena are given new interpretations; educational approaches are altered; power structures in society undergo change; new bases for consensus are applied to conflicts between belief systems.

A later similar event occurred with the work of the geologists, paleontologists, and biologists of

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the nineteenth century culminating in the controversial evolutionary hypotheses. Questions relating to the origin of the earth and of man were relabeled "empirical" instead of "theological." Again the consequences reverberated throughout the worlds of research, education, and politics.

I believe there is good reason to suspect that we are in the midst of another such saltation today. Much evidence suggests that *a group of questions relating to the commonality of and interpretation of man's subjective experience, especially of the "transcendental," and hence to the bases of human values, are shifting from the realm of the "philosophical" to the "empirical." If so, the consequences may be even more far-reaching than those which emerged from the Copernican, Darwinian, and Freudian revolutions.*

The evidence is of various sorts. The most obvious kind, of course, is simply the indications that scientists—that is, persons with recognized scientific training, on the staffs of research organizations and universities with high standards, and holding membership in good standing in recognized scientific associations—are manifesting more and more interest in developing an adequate science of ordinary and extraordinary subjective experience. This is not completely new, of course. The phenomena of hypnosis have been studied in a scientific way, off and on, for at least a century and a half. Phenomenology has been a sometime influence in psychology. Freud's psychoanalysis and its offshoots have attempted to probe the unconscious processes. Pioneering books in the exploration of supraconscious processes include F.W.H. Myers' *Human Personality and Its Survival of Bodily Death*, Richard Bucke's *Cosmic Consciousness*, William James' *Varieties of Religious Experience*, and Pitirim Sorokin's *The Ways and Power of Love*, the first three being approximately two-thirds of a century old. Early in 1969 the first issue will appear of the *Journal of Transpersonal Psychology*, dedicated to the systematic exploration of "transpersonal experience." The April 1969 Council Grove (Kansas) conference on "voluntary control of inner states," cosponsored by the Menninger Foundation and the American Association for Humanistic Psychology, represents an unprecedented assemblage of scientists working with altered states of consciousness through such techniques as autohypnosis and group hypnosis, aural feedback of alphawave signals, and psychedelic drugs.

In the field of clinical psychology several scientists are proposing to formulate through their researches "a natural value system, a court of ultimate appeal for the determination of good and bad, of right and wrong" (A. H. Maslow), "universal human value directions emerging from the experiencing of the human organism" (Carl Rogers).

An ever-increasing number of students, now in the millions at least, are involved with "awareness-expanding" activities in free-university courses and elsewhere. This concern is intimately related to student demands for a person-centered, rather than scholarship-centered, education.

The science of man's subjective experience is in its infancy. Even so, some of its foreshadowings are evident. With the classification of these questions into the realm of empirical inquiry, we can anticipate an acceleration of research in this area. As a consequence there is new hope of consensus on issues which have been at the root of conflict for centuries (just as earlier there came about consensus on the place of the Earth in the universe, and on the origin of man). The new science will incorporate the most penetrating insights of psychology, the humanities, and religion. These developments will have profound impacts on goal priorities in society, on our concepts of education, on the further development and use of technology, and perhaps (as in the case of the Copernican revolution) on the distribution of power among social institutions and interest groups.

Young and incomplete as the science of subjective experience is, it nevertheless already contains what may very well be extremely significant precursors of tomorrow's image of man's potentialities. Space does not permit documenting them here; however, the following three propositions have accumulated an impressive amount of substantiating evidence:

- The potentialities of the individual human being are far greater, in extent and diversity, than we ordinarily imagine them to be, and far greater than currently in-vogue models of man would lead us to think possible.
- A far greater portion of significant human experience than we ordinarily feel or assume to be so is comprised of unconscious processes. This includes not only the sort of repressed memories and messages familiar to us through psychotherapy. It includes also "the wisdom of the body" and those mysterious realms of experience we refer to with

such words as "intuition" and "creativity." Access to these unconscious processes is apparently facilitated by a wide variety of factors, including attention to feelings and emotions, inner attention, "free association," hypnosis, sensory deprivation, hallucinogenic and psychedelic drugs, and others.

- Included in these partly or largely unconscious processes are self-expectations, internalized expectations of others, images of the self and limitations of the self, and images of the future, which play a predominant role in limiting or enhancing actualization of one's capacities. These tend to be self-fulfilling. Much recent research has focused on the role of self-expectations and expectations of others in affecting performance, and on the improvement of performance level through enhancing self-image. On the social level research findings are buttressing the intuitive wisdom that one of the most important characteristics of any society is its vision of itself and its future, what Boulding calls "organizing images." The validity of the self-fulfilling prophecy and the self-realizing image appears to grow steadily in confirmation.

Assuming that the evidence substantiating these propositions continues to mount, they have the most profound implications for the future. For they say most powerfully that we have undersold man, underestimated his possibilities, and misunderstood what is needed for what Boulding terms "the great transition." They imply that the most profound revolution of the educational system would not be the cybernation of knowledge transmission, but the infusion of an exalted image of what man can be and the cultivation of an enhanced self-image in each individual child. They imply that the solution to the alienation and widespread disaffection in our society is not alone in vast social programs, but will come about through widespread adoption of a new image of our fellow man and our relationship to him. They suggest that the most pervasive illness of our nation is loss of the guiding vision, and the cure is to be found in a nobler image of man and of a society in which his growth may be better nurtured. They reassure that an image of fully-human man and of a new social order need not be built of the gossamer of wishful thinking, but can have a sound foundation in the research findings of the most daring explorers of the nature of man and his universe.

It is perhaps not too early to predict some of the characteristics of the new science. Preliminary indications suggest at least the following:

- Although we have been speaking of it as a science of subjective experience, one of its dominant characteristics will be a relaxing of the subjective-objective dichotomy. The range between perceptions shared by all or practically all, and those which are unique to one individual, will be assumed to be much more of a continuum than a sharp division between "the world out there" and what goes on "in my head."
- Related to this will be the incorporation, in some form, of the age-old yet radical doctrine that we perceive the world and ourselves in it as we have been culturally "hypnotized" to perceive it. The typical commonsense-scientific view of reality will be considered to be a valid but partial view—a particular metaphor, so to speak. Others, such as certain religious or metaphysical views, will be considered also, and even equally, valid but more appropriate for certain areas of human experience.
- The new science will incorporate some way of referring to the subjective experiencing of a unity in all things (the "More" of William James, the "All" of Bugental, the "divine Ground" of Aldous Huxley's *The Perennial Philosophy*).
- It will include some sort of mapping or ordering of states of consciousness transcending the usual conscious awareness (Bucke's "Cosmic Consciousness," the "enlightenment" of Zen, and similar concepts).
- It will take account of the subjective experiencing of a "higher self" and will view favorably the development of a self-image congruent with this experience (Bugental's "I-process," Emerson's "Oversoul," Assagioli's "True Self," Brunton's "Overself," the Atman of Vedanta, and so on).
- It will allow for a much more unified view of human experiences now categorized under such diverse headings as creativity, hypnosis, mystical experience, psychedelic drugs, extra-sensory perception, psychokinesis, and related phenomena.
- It will include a much more unified view of the processes of personal change and emergence which take place within the contexts of psychotherapy, education (in the sense of "know thyself"), and religion (as spiritual growth). This view will possibly center around the concept that personality and behavior patterns change consequent upon a change in self-image, a modification of the person's emotionally felt perception of himself and his relationship to his environment.

John Rader Platt has argued in *The Step to Man*—as have Kenneth Boulding and Teilhard de Chardin before him—that the present point in the history of man may well, when viewed in retrospect by some future generation, appear as a relatively sudden cultural step. The portentous impact of the new technology is the heady yet sobering realization that we have the future in our hands, that man recognizes his role as, to use Julian Huxley's phrase, "a trustee of evolution on this earth." The new man, "homo progressi-

WILLIS W. HARMAN was awarded the Ph.D. at Stanford in 1948 and joined the faculty of the Department of Electrical Engineering in 1952, with a particular interest in systems analysis. During the mid-1960's, as his interests broadened to include analysis of social systems, he moved into the newly formed Department of Engineering-Economic Systems. He became director of one of the two Educational Policy Research Centers set up last year by the U.S. Office of Education to explore "alternative futures" for education and for society. A search for "the issues behind the issues" in education led to comparisons of alternative philosophies and belief systems, and this led in turn to the tentative conclusions reported in this paper.

vus" in Teilhard de Chardin's words, is described by Lancelot Law Whyte as "unitary man," by Lewis Mumford as the "new person," and by Henry A. Murray as an "ally of the future." The challenge of our time is whether we make "the step to man" or our Faustian powers prove our undoing and the whole vast machine goes off the track through the strains of internecine conflict and degradation of the environment.

To become the new man and to construct the new moral order require a guiding image which is worthy of the task. Man's highest learning has seemed to comprise, in C. P. Snow's terms, not one culture but two. And the noblest of the images of man to be found in the culture of the humanities appeared somehow alien to the culture of the sciences. The preceding arguments suggest this this state of affairs is probably a temporary one. For example, Ernest Becker proposes that the two cultures can be joined in a true science of man through admission of the universal value statement that that which estranges man from himself is unwholesome. Whether this or something else becomes the unifying principle, the reconciliation may soon take place. On the one hand, we will come to use comfortably many pluralistic images of aspects of man—one for his biochemical functioning, another perhaps for dealing with his pathologies, still another for encompassing his most fully human actions and proclivities. But on the other hand we will find nothing incompatible between any of these and an overarching image of what man can be, or perhaps more accurately, can come to realize that he is already.

THE SOCIAL SIGNIFICANCE of our dominant basic assumptions regarding the interpretation of subjective experience can be made more specific. At the surface level, so to speak, the nation is beset by numerous social problems which we point to with the terms poverty, crime, racial discrimination, civil disorder, unemployment, pollution, and the like. Experience with attempts to deal straightforwardly with these problems—to tackle discrimination with civil-rights legislation, to alleviate the ills of poverty with minimum-wage laws and welfare payments, to eliminate ghettos with urban-renewal programs, to deal with civil disorders by increasing police power—indicates that such direct measures typically have unexpected and unintended outcomes. It is as though an "ecology of situations" were upset by a piecemeal approach.

The reason appears to be intrinsic. It seems that these manifest problems are in a sense symptoms of underlying conditions that are more pervasive and less easy to objectify. At another level these problems reside in the institutions of the society, in built-in power distributions, in the traditional roles to which persons are trained, in the time-hallowed structures and processes. At a still deeper level they involve the most basic assumptions, attitudes, and felt values held by the individual and promoted by the culture. The most carefully designed social measures will not

achieve their desired goals unless they involve not only rationally designed programs and structures, but also changes in deeply-rooted beliefs, values, attitudes, and behavior patterns, both of the individuals who constitute "the problem populations" and of the self-righteous others who assume that they are not implicated.

An analogy with the process of psychotherapy may reassure that in attending to these underlying conditions we are dealing with that which is more, not less, real and relevant. In the end the neurotic discovers that he was divided against himself, and in a sense lying to himself to conceal that condition. So it may be with our social problems that the significant constructive change is first of all an inner one rather than outer, and in the direction of recognizing the hidden lies and resolving the hidden divisions. To put it in somewhat different terms, just as it is possible for a person to have a pathological set of beliefs about himself, so it may be possible for our society to possess a dysfunctional belief and value system.

In fact, much of today's student unrest centers around the accusation that the society's operative assumptions about man's deepest desires are indeed not consistent with individual inner experience nor in the long-term interest of man or society. A dominant theme among disaffected students is that the American corporate capitalist system manipulates and oppresses the individual.

THUS IT IS NOT solely in an idealistic vein that the new science of subjective experience is hailed as having profound significance. It has survival value as well.

Several recent scholars of the future such as Robert Heilbroner, Kenneth Boulding, and Fred Polak have made much of the concept that it is the *image* of the future which is the key to that future coming into realization. "Every society has an image of the future which is its real dynamic." As previously noted, much evidence has been accumulated to indicate that the power of the image may be far greater than we have heretofore suspected.

To whatever extent the science of the past may have contributed to a mechanistic and economic image of man and a technocratic image of the good society, the new science of subjective experience may provide a counteracting force toward the ennobling of the image of the individual's possibilities, of the educational and socializing processes, and of the future. And since we have come to understand that science is not a description of "reality" but a metaphorical ordering of experience, the new science does not impugn the old. It is not a question of which view is "true" in some ultimate sense. Rather, it is a matter of which picture is more useful in guiding human affairs. Among the possible images that are reasonably in accord with accumulated human experience, since the image held is that most likely to come into being, it is prudent to choose the noblest.

It is strange to observe that at this point in history when we literally have the knowledge and material resources to do almost anything we can imagine—from putting a man on the moon, to exploring the depths of the oceans, to providing an adequate measure of life's goods to every person on earth—we also seem the most confused about what is worth doing. The great problems facing us are a sort where we need belief in ourselves and will to act even more than we need new technologies, creative social program concepts, and program budgeting. At a time when the nation may well be in its gravest peril in over a century, and Western civilization may hang in the balance, it could even come to pass that a new "Copernican revolution" might provide a missing balance in some four-century-old trends started by the first one.

## REFERENCES


Assagioli, Roberto, *Psychosynthesis: A Manual of Principles and Techniques* (Hobbs, Dorman, 1965)

Becker, Ernest, *Beyond Alienation* (George Braziller, 1967)

Boulding, Kenneth, *The Meaning of the Twentieth Century* (Harper and Row, 1964)

Brunton, Paul, *In Quest of the Overself* (Dutton, 1938)

Bucke, Richard M., *Cosmic Consciousness* (Dutton, 1923)

Bugental, James F. T., *The Search for Authenticity* (Holt, Rinehart & Winston, 1965)

Fromm, Erich, *The Revolution of Hope* (Harper and Row, 1968)

Harman, W. W., "Old Wine in New Wineskins" in *Challenges of Humanistic Psychology*, J.F.T. Bugental, ed. (McGraw-Hill, 1967)

Huxley, Aldous, *The Perennial Philosophy* (Harper and Brothers, 1945)

Maslow, A. H., *Toward a Psychology of Being* (Van Nostrand, 1962)

Platt, John R., *The Step to Man* (John Wiley and Sons, 1966)

Teilhard de Chardin, P., *The Future of Man* (Harper and Row, 1964)